

## **ABSTRACT**

Various systems and methods are describe for determining dynamically generated content to be invalidated as a result of changes to underlying data. In one method, invalidation processing is performed using a delayed version of the database that reflects the state of the database at the beginning of a preceding processing cycle, and an update log that reflects all updates since the beginning of the preceding processing cycle. In another method, invalidation processing is performed by locking a database which is locked during processing so as to reflect the state of the database at the beginning of processing, and an update log that reflects all updates to the database since the beginning of the preceding processing cycle. In another method, invalidation processing uses the database while it is freely updated during said processing, and the update log of the database.